

In the Claims

1. (Original) A stable phosphatidylserine (PS) composition of matter comprising from about 1 to about 99% (w/w) phosphatidylserine.
2. (Original) The composition of matter of claim 1, comprising from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters.
3. (Currently amended) The composition of matter of claim 1 ~~or claim 2~~, characterized in that no more than about 1 to about 5% of the phosphatidylserine are decomposed after a storage period of at least 6 months, preferably at least 12 months, more preferably at least 24 months.
4. (Currently amended) The composition of matter of ~~any one of claim 1 to 3~~, characterized in being substantially devoid of phospholipase activity, particularly phospholipase D activity.
5. (Currently amended) The phosphatidylserine composition of matter of ~~any one of claims claim 1 to 4~~, being in powder form.
6. (Currently amended) The phosphatidylserine composition of matter of ~~any one of claims claim 1 to 5~~, wherein the phosphatidylserine is present in the form of a salt which is substantially soluble in organic solvents, preferably the sodium salt.
7. (Original) The phosphatidylserine composition of matter of claim 6, wherein said PS sodium salt is obtained by treatment of a PS divalent salt with a metal chelator, preferably

EDTA.

8. (Currently amended) The phosphatidylserine composition of matter of ~~any one of claims claim 1 to 5~~, wherein the phosphatidylserine is present in the form of a salt which is substantially non-soluble in organic solvents, preferably the calcium salt.

9. (Currently amended) A stable liquid preparation of phosphatidylserine comprising a stable phosphatidylserine (PS) composition of matter, said composition of matter comprising from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters, dissolved in an oil, wherein said oil is the phosphatidylserine composition of matter of any one of claims 1 to 7, dissolved in oil, preferably a medium-chain triglyceride.

10. (Currently amended) The liquid phosphatidylserine preparation of claim 9, comprising from about 1 to about 90% (w/w) phosphatidylserine, preferably from about 2.5 to about 55% (w/w).

11. (Currently amended) The liquid phosphatidylserine preparation of claim 9 ~~or claim 10~~, characterized in that no more than about 1 to about 5% of the phosphatidylserine are decomposed after a storage period of at least 6 months, preferably at least 12 months, more preferably at least 24 months.

12. (Currently amended) The liquid phosphatidylserine preparation of ~~any one of claims claim 9 to 11~~, further comprising additional bio-functional ingredients, preferably at least one of lecithin, phospholipids, vitamins, anti-oxidants, minerals, nutritional proteins or peptides, sterol and other derivatives, nutritional carbohydrates and their derivatives, amino acids, plant

extracts, fermentation products, glyceride derivatives (mono- and di-glycerides), poly-unsaturated fatty acids, and Omega-3 and/or Omega-6 lipids.

13. (Currently amended) A stable dispersion of phosphatidylserine comprising a stable phosphatidylserine (PS) composition of matter, said composition of matter comprising from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters, the stable phosphatidylserine composition of matter of any one of claims 1 to 5 and 8 dispersed in a liquid base, preferably a lipid base, more preferably an oil base.

14. (Original) The phosphatidylserine dispersion of claim ~~14~~ 13, comprising from about 1 to about 70% (w/w) phosphatidylserine, preferably from about 5% to 45% (w/w).

15. (Currently amended) The phosphatidylserine dispersion of claim 13 ~~or claim 14~~, wherein said oil base is a triglyceride base, particularly medium-chain triglyceride base or vegetable oil.

16. (Currently amended) The phosphatidylserine dispersion of ~~any one of claims 13 to 15~~ claim 13 to 15, further comprising additional bio-functional ingredients, preferably at least one of lecithin, phospholipids, vitamins, anti-oxidants, minerals, nutritional proteins or peptides, sterol and other derivatives, nutritional carbohydrates and their derivatives, amino acids, plant extracts, fermentation products, glyceride derivatives (mono- and di-glycerides), poly-unsaturated fatty acids, and Omega-3 and/or Omega-6 lipids.

17. (Currently amended) The phosphatidylserine dispersion of ~~any one of claims 13 to 16~~ claim 13 to 16, characterized in that said dispersion is solid at room temperature and fluid at elevated

temperatures, and it is suitable for softgel encapsulation.

18. (Currently amended) The phosphatidylserine composition of matter of ~~any one of claims~~ claim 1 to 8, for use as a dietary supplement, nutraceutical food and/or drug additive.

19. (Currently amended) The phosphatidylserine liquid preparation of ~~any one of claims~~ claim 9 to 12, for use as a dietary supplement, nutraceutical food and/or drug additive.

20. (Currently amended) The phosphatidylserine dispersion of ~~any one of claims~~ claim 13 to 17, for use as a dietary supplement, nutraceutical food and/or drug additive.

21. (Currently amended) A food article comprising ~~the one of a~~ phosphatidylserine composition of matter of ~~any one of claims 1 to 6~~, wherein said composition of matter may be in powder form, a stable liquid preparation of phosphatidylserine dissolved in a lipid base, or a stable dispersion of phosphatidylserine dispersed in a lipid base, wherein said composition of matter, liquid preparation or stable dispersion comprise from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters, and optionally further comprising at least one additional active ingredient.

22. (Currently amended) The food article of ~~any one of claims~~ claim 21 ~~9 to 12~~, characterized in that no more than about 1 to about 5% of the phosphatidylserine are decomposed after a storage period of at least 6 months, preferably at least 12 months, more preferably at least 24 months.

23. (Cancelled)

24. (Currently amended) A pharmaceutical composition comprising the one of a phosphatidylserine composition of matter of any one of claims 1 to 8, wherein said composition of matter may be in powder form, a stable liquid preparation of phosphatidylserine dissolved in a lipid base, or a stable dispersion of phosphatidylserine dispersed in a lipid base, wherein said composition of matter, liquid preparation or stable dispersion comprise from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters, and optionally further comprising at least one additional bio-functional ingredient and/or at least one pharmaceutically acceptable additive, diluent, carrier or excipient.

25. (Currently amended) A The pharmaceutical composition of claim 24 comprising the phosphatidylserine liquid preparation of any one of claims 9 to 12 and optionally further comprising at least one additional bio functional ingredient and/or at least one pharmaceutically acceptable additive, diluent, carrier or excipient, characterized in that no more than about 1 to about 5% of the phosphatidylserine are decomposed after a storage period of at least 6 months, preferably at least 12 months, more preferably at least 24 months.

26. (Cancelled)

27. (Currently amended) A capsule containing one of a phosphatidylserine composition of matter, wherein said composition of matter may be in powder form, a stable liquid preparation of phosphatidylserine dissolved in a lipid base, or a stable dispersion of phosphatidylserine dispersed in a lipid base, wherein said composition of matter, liquid preparation or stable dispersion comprise from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w)

phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters ~~the phosphatidylserine composition of matter of any one of claims 1 to 8,~~ wherein said capsule is preferably a soft gelatin capsule.

28. (Currently amended) A The capsule of claim 27, characterized in that no more than about 1 to about 5% of the phosphatidylserine are decomposed after a storage period of at least 6 months, preferably at least 12 months, more preferably at least 24 months ~~containing the liquid phosphatidylserine preparation of any one of claims 9 to 12, wherein said capsule is preferably a soft gelatin capsule.~~

29. (Cancelled)

30. (Currently amended) The phosphatidylserine composition of matter of ~~any one of claims~~ claim 2 1 to 8, for use as an enhancer of cognitive performance and learning ability.

31. (Currently amended) The liquid phosphatidylserine preparation of ~~any one of claims~~ claim 9 to 12, for use as an enhancer of cognitive performance and learning ability.

32. (Currently amended) The phosphatidylserine dispersion of ~~any one of claims~~ claim 13 to 17, for use as an enhancer of cognitive performance and learning ability.

33. (Currently amended) The phosphatidylserine composition of matter of ~~any one of claims~~ claim 2 1 to 8, for use in preventing memory loss, particularly age-related memory loss.

34. (Currently amended) The liquid phosphatidylserine preparation of ~~any one of claims~~ claim 9 to 12, for use in preventing memory loss, particularly age-related memory loss.

35. (Currently amended) The phosphatidylserine dispersion of ~~any one of claims~~ claim 13 to

17, for use in preventing memory loss, particularly age-related memory loss.

36. (Original) A process for the preparation of a stable phosphatidylserine composition of matter, comprising the steps of:

- a. incubating an aqueous mixture of L-serine and optionally appropriate organic solvents with lecithin in the presence of an immobilized phospholipase D for a suitable period of time to give phosphatidylserine;
- b. removing the upper layer which contains the phosphatidylserine;
- c. obtaining the phosphatidylserine from the upper layer by standard means;
- d. washing the resulting phosphatidylserine with an appropriate aqueous solution to remove excess L-serine;
- e. optionally washing the phosphatidylserine obtained in step (d) with a suitable organic solvent, preferably ethanol at an elevated temperature; and
- f. drying the phosphatidylserine obtained in step (e).

37. (Original) The process of claim 36, further comprising the step of deactivating any residual phospholipase activity in the obtained phosphatidylserine by suitable means.

38. (Currently amended) The process of claim 36 ~~or 37~~, wherein said phospholipase is immobilized on an insoluble matrix and is optionally surfactant coated, and after step (a), the reaction mixture is allowed to stand until the phospholipase D precipitates.

39. (Currently amended) A process for preparing a stable phosphatidylserine oil-based liquid preparation of phosphatidylserine comprising the step of dissolving a stable phosphatidylserine (PS) composition of matter, said composition of matter comprising from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99%

(w/w) sterol or sterol esters ~~the phosphatidylserine composition of matter of any one of claims 1 to 7 or obtained by the method of any one of claims 36 to 38~~ in a suitable oil base, preferably a medium-chain triglycerides or vegetable oil.

40. (Currently amended) A process for preparing a stable liquid-based dispersion of phosphatidylserine comprising the step of [[:  
-]] dispersing a stable phosphatidylserine (PS) composition of matter, said composition of matter comprising from about 1 to about 99% (w/w) phosphatidylserine, from about 1 to about 99% (w/w) other functional ingredients, from about 1 to about 99% (w/w) phosphatidylcholine (PC), preferably from about 1 to about 99% (w/w) phosphatidylethanolamine (PE), from about 1 to about 99% (w/w) phosphatidylinositol (PI), from about 1 to about 99% (w/w) Omega-3 source, from about 1 to about 99% (w/w) Omega-6 source and/or from about 1 to about 99% (w/w) sterol or sterol esters ~~the phosphatidylserine composition of matter of any one of claims 1 to 5 and 8, or obtained by the method of any one of claims 34 to 36,~~ in a suitable liquid base, preferably triglyceride base and particularly medium-chain triglycerides or an edible oil, preferably fish oil.

41. (Cancelled)

42. (Original) A stable phosphatidylserine composition of matter, which is resistant to degradation by at least one of the following routes: enzymatic hydrolysis and transphosphatidylation, partial or full hydrolysis of the phospholipid fatty acids, removal of the phosphate group, decarboxylation of L-serine carboxylate group, phospholipids hydroperoxidation, oxidation of the primary amine group of the L-Serine head-group.

43. (Original) A stable liquid phosphatidylserine preparation, which is resistant to degradation by at least one of the following routes: enzymatic hydrolysis and transphosphatidylation, partial or full hydrolysis of the phospholipid fatty acids, removal of the phosphate group, decarboxylation of L-serine carboxylate group, phospholipids hydroperoxidation, oxidation of the primary amine group of the L-Serine head-group.



44. (Original) A stable dispersion of phosphatidylserine, which is resistant to degradation by at least one of the following routes: enzymatic hydrolysis and transphosphatidylation, partial or full hydrolysis of the phospholipid fatty acids, removal of the phosphate group, decarboxylation of L-serine carboxylate group, phospholipids hydroperoxidation, oxidation of the primary amine group of the L-Serine head-group.